~~101. (Amended) The method of claim 103 further comprising the following step:~~

assessing, by using an endogenous ligand based assay, the impact of the non-endogenous compound of step (d) on the binding of an endogenous ligand for the known GPCR version of the non-endogenous version of said known GPCR of step (a) with said known GPCR.

Please add new claims **103-177**:

103. **(New)** A method for directly identifying a non-endogenous compound as a compound having an activity selected from the group consisting of: inverse agonists, parallel agonists, and partial agonists, to a non-endogenous, constitutively activated version of known G protein-coupled receptor, said receptor comprising a transmembrane-6 region and an intracellular region, comprising the steps of:

(a) selecting a non-endogenous version of a known GPCR;

(b) confirming that the selected non-endogenous GPCR of step (a) is constitutively active;

(c) contacting a non-endogenous candidate compound with the non-endogenous, constitutively activated GPCR of step of (b); and

(d) determining, by measurement of the compound efficacy at said contacted receptor, whether said non-endogenous compound having inverse agonist activity as an inverse agonist or agonist activity is an agonist to said receptor of step (b).

104. **(New)** The method of claim 103 wherein the known receptor is a serotonin receptor.

105. **(New)** The method of claim 104 wherein the known serotonin receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:425, 427, 429, 431, 433, 435, 437, 439, 441, 443, 445, 447, 449, and 451.

106. **(New)** The method of claim 102 wherein the known receptor is an arginine vasopressin receptor.

107. **(New)** The method of claim 106 wherein the known arginine vasopressin receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:453, 455, and 457.

108. **(New)** The method of claim 102 wherein the known receptor is a bombesin receptor.

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109. **(New)** The method of claim 108 wherein the known bombesin receptor has an amino acid sequence of SEQ ID NOS:459.

110. **(New)** The method of claim 102 wherein the known receptor is a bradykinin receptor.

111. **(New)** The method of claim 110 wherein the known bradykinin receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:461 and 463.

112. **(New)** The method of claim 102 wherein the known receptor is an anaphylatoxin receptor.

113. **(New)** The method of claim 112 wherein the known anaphylatoxin receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:465 and 467.

114. **(New)** The method of claim 102 wherein the known receptor is a cannabinoid receptor.

115. **(New)** The method of claim 114 wherein the known cannabinoid receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:469 and 471.

116. **(New)** The method of claim 102 wherein the known receptor is a monocyte chemoattractant receptor.

117. **(New)** The method of claim 116 wherein the known monocyte chemoattractant receptor has an amino acid sequence selected from the group consisting of SEQ ID NO:473 and 475.

118. **(New)** The method of claim 102 wherein the known receptor is a MIP-1 receptor.

119. **(New)** The method of claim 118 wherein the known MIP-1 receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:477 and 479.

120. **(New)** The method of claim 102 wherein the known receptor is a thymus-expressed chemokine receptor.

121. **(New)** The method of claim 120 wherein the known thymus-expressed chemokine receptor has an amino acid sequence of SEQ ID NO: 481.

122. **(New)** The method of claim 102 wherein the known receptor is a corticotropin-releasing-factor receptor.

123. **(New)** The method of claim 122 wherein the known corticotropin-releasing-factor receptor has an amino acid sequence of SEQ ID NO:483.

124. **(New)** The method of claim 102 wherein the known receptor is an SDF1 receptor.

125. **(New)** The method of claim 124 wherein the known SDF1 receptor has an amino acid sequence of SEQ ID NO:485.

126. **(New)** The method of claim 102 wherein the known receptor is a dopamine receptor.

127. **(New)** The method of claim 126 wherein the known dopamine receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:487, 489, 491, and 493.

128. **(New)** The method of claim 102 wherein the known receptor is an endothelin receptor.

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129. **(New)** The method of claim 128 wherein the known endothelin receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:495 and 497.

130. **(New)** The method of claim 102 wherein the known receptor is a formylpeptide receptor.

131. **(New)** The method of claim 130 wherein the known formylpeptide receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:499 and 501.

132. **(New)** The method of claim 102 wherein the known receptor is a galanin receptor.

133. **(New)** The method of claim 132 wherein the known galanin receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:503 and 505.

134. **(New)** The method of claim 102 wherein the known receptor is a gastric inhibitory polypeptide receptor.

135. **(New)** The method of claim 134 wherein the known gastric inhibitory polypeptide receptor has an amino acid sequence of SEQ ID NO:507.

136. **(New)** The method of claim 102 wherein the known receptor is a glutamate receptor.

137. **(New)** The method of claim 136 wherein the known glutamate receptor has an amino acid sequence of SEQ ID NO:347.

138. **(New)** The method of claim 102 wherein the known receptor is an SMC-1 receptor.

139. **(New)** The method of claim 138 wherein the known SMC-1 receptor has an amino acid sequence of SEQ ID NO:509.

140. **(New)** The method of claim 102 wherein the known receptor is a melanin concentrating hormone receptor.

141. **(New)** The method of claim 140 wherein the known melanin concentrating hormone receptor has an amino acid sequence selected from the group consisting of SEQ ID NO:351, 355, 359, 363, 367, 371, 375, 379, 383, 387, and 391.

142. **(New)** The method of claim 102 wherein the known receptor is a gastrin releasing peptide receptor.

143. **(New)** The method of claim 142 wherein the known gastrin releasing peptide receptor has an amino acid sequence of SEQ ID NO:511.

144. **(New)** The method of claim 102 wherein the known receptor is an acetylcholine receptor.

145. **(New)** The method of claim 144 wherein the known acetylcholine receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:513, 515, 517, 519, and 521.

146. **(New)** The method of claim 102 wherein the known receptor is a melanocortin receptor.

147. **(New)** The method of claim 146 wherein the known melanocortin receptor has an amino acid sequence of SEQ ID NO:523.

148. **(New)** The method of claim 102 wherein the known receptor is a Substance P receptor.

149. **(New)** The method of claim 148 wherein the known Substance P receptor has an amino acid sequence of SEQ ID NO:525.

150. **(New)** The method of claim 102 wherein the known receptor is a neurokinin receptor.

151. **(New)** The method of claim 150 wherein the known neurokinin receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:527, and 529.

152. **(New)** The method of claim 102 wherein the known receptor is a neuromedin receptor.

153. **(New)** The method of claim 152 wherein the known neuromedin receptor has an amino acid sequence of SEQ ID NO:531.

154. **(New)** The method of claim 102 wherein the known receptor is a Neuroprptide Y receptor.

155. **(New)** The method of claim 154 wherein the known Neuropeptide Y receptor has an amino acid sequence of SEQ ID NO:533.

156. **(New)** The method of claim 102 wherein the known receptor is a neurotensin receptor.

157. **(New)** The method of claim 156 wherein the known neurotensin receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:535 and 537.

158. **(New)** The method of claim 102 wherein the known receptor is an opiod receptor.

159. **(New)** The method of claim 158 wherein the known opiod receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:539, 541, 543, 545, and 547.

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160. **(New)** The method of claim 102 wherein the known receptor is an orexin receptor.

161. **(New)** The method of claim 160 wherein the known orexin receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:549 and 551.

162. **(New)** The method of claim 102 wherein the known receptor is a pituitary adenylyl cyclase activating peptide receptor.

163. **(New)** The method of claim 162 wherein the known pituitary adenylyl cyclase activating peptide receptor has an amino acid sequence of SEQ ID NO:553.

164. **(New)** The method of claim 102 wherein the known receptor is a platelet activating factor receptor.

165. **(New)** The method of claim 164 wherein the known platelet activating factor receptor has an amino acid sequence of SEQ ID NO:555.

166. **(New)** The method of claim 102 wherein the known receptor is a prostaglandin receptor.

167. **(New)** The method of claim 166 wherein the known prostagladin receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:557, 559, and 561.

168. **(New)** The method of claim 102 wherein the known receptor is a parathyroid hormone receptor.

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169. **(New)** The method of claim 168 wherein the known parathyroid hormone receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:563 and 565.

170. **(New)** The method of claim 102 wherein the known receptor is a secretin receptor.

171. **(New)** The method of claim 170 wherein the known secretin receptor has an amino acid sequence of SEQ ID NO:567.

172. **(New)** The method of claim 102 wherein the known receptor is a somatostatin receptor.

173. **(New)** The method of claim 172 wherein the known somatostatin receptor has an amino acid sequence selected from the group consisting of SEQ ID NOS:569, 571, 573, 575, and 577.